# EDITORIAL

## Swimming Upstream

### Access, Health Outcomes, and the Social Determinants of Health

All diseases have two causes, one pathological the other political.
Rudolph Virchow (1821–1902)

Social class dwarfs healthcare as a determinant of health. A large body of evidence demonstrates that socioeconomic position is a powerful predictor of health outcomes, and that poverty is the leading cause of avoidable morbidity and mortality. Although food and shelter are prerequisites for health, millions of Americans live in chronic poverty and struggle to acquire basic necessities. Almost a half a century after Lyndon Johnson declared "war on poverty," it appears that the nation has surrendered. Although the official poverty rate fell each year between 1993 and 2000, poverty rates have risen in each of the last 4 years. In 2004, 12.7% of the U.S. population or 37 million Americans were living in poverty, 1.1 million more than in 2003.[1]

Many low-income Americans with incomes above the official poverty level find themselves caught between Scylla and Charybdis, forced to choose whether to pay rent, buy food, or seek medical care. In an analysis of a nationally representative sample of working age adults with incomes below 200% of the poverty level, Kushel et al.[2] found that this forced choice is all too common. Nearly half of low-income adults reported food insecurity: cutting the size of or skipping meals, running out of food, or worrying about running out of food because of lack of money. One quarter reported housing instability: difficulty paying rent, mortgage, or utilities. Many experienced both. Not surprisingly, food insecurity and housing instability were independently associated with poor access to care and increased use of emergency room and acute hospital services. Individuals reporting food insecurity or housing instability were more likely to delay seeking needed care or taking necessary medications. Housing instability was a barrier to having a usual source of care, thus impeding continuity of care.

The health consequences of hunger and homelessness are well documented.[3,4] By examining less extreme, but more prevalent forms of food and housing inadequacy this study illustrates an important epidemiologic principle. Although we often dichotomize risk in order to facilitate decision making, most risks are continuous, not binary conditions. Nourishment varies from well nourished to hungry; shelter from stably and affordably housed to homeless. Addressing risks across the continuum can sometimes have a larger population health impact than targeting only those falling below arbitrary thresholds.[5] An estimated 800,000 Americans are homeless at a given point in time, 3 to 5 million have experienced an episode of homelessness in the last 5 years,[3] and many more experience housing instability. The incipient homeless or hungry are people who live just one misfortune (e.g., loss of a job or benefits, illness, injury, etc.) away from homelessness or hunger. Earlier intervention to stabilize someone's situation while housed is often less complex, costly, and more enduring than waiting until homelessness occurs.

In his classic paper, "Sick Individuals and Sick Populations," Rose details the advantages and disadvantages of individual versus population approaches to risk reduction, emphasizing that in order to both deliver effective clinical care and to implement healthy public policy it is necessary to understand *both* the causes of cases ('Why did *this* patient get *this* disease at *this* time?') *and* the causes of incidence and prevalence. For example, social conditions explain variation in the prevalence of hypertension and diabetes among individuals of West African origin.[6] Rose encourages doctors to focus not only on the individual patient, but to consider potentially modifiable contextual factors responsible for illness ("Why did this happen, and could it have been prevented?"), thus incorporating a population health perspective into clinical practice and pointing the direction of inquiry 'upstream' on the causal chain.[5]

As doctors we toil away downstream, our fingers in the proverbial dike, working to improve health and avert disaster in our most vulnerable patients. We seek to modify risk, one patient at a time. Yet, upstream factors, social and economic conditions are the root cause for many health problems. It is these upstream conditions that present barriers to effective medical intervention, and assure a never-ending flow of patients in poor health suffering from avoidable illness. We know that the treatment for homelessness is housing and the treatment for hunger is food,[4,7] but do not have the tools to intervene. In an era of accountability, we are increasingly evaluated on health outcomes knowing that the social circumstances of our patients often supercede our best efforts, but also knowing that when performance measures are adjusted for sociodemographics to account for this, we mask inequities.[8]

Fortunately, new frameworks and models are emerging that can empower us to develop interventions at multiple levels (e.g., clinical encounter, practice or health system, the community, local or federal policy) to address these challenges. Australia's National Health and Medical Research Council recognizing that, "access to health services, ability to act on health advice, and the capacity to modify health risk factors are influenced by the circumstances under which people live and work" developed a framework for including evidence about the social determinants into clinical practice guidelines.[9] Brown et al.[10] developed a framework for understanding the impact of socioeconomic factors as important mediators of diabetes outcomes. In 2002, 4 million families turned to food banks for food.[11] At a very minimum we should be able to diagnose food insecurity and partner with and direct our patients to needed community services.

The Chronic Care Model (CCM), which has guided efforts to improve healthcare quality using a health systems approach, includes the role of community resources and policy in improving health outcomes. Subsequent iterations of this model expand upon the role of both communities and the pol-

icy environment in fostering health, providing a framework that can be used to address the social determinants of health in the context of system redesign and improvement.[12,13] The Innovative Care for Chronic Conditions model (ICCC), developed to adapt the CCM for application in developing nations, includes the community as an equal partner together with providers and patients in improving health outcomes and identifies critical elements of supportive policies including resource allocation and consistent financing.[13] In Canada, the province of British Columbia is using the "Expanded Chronic Care Model" which emphasizes the role of an activated community as a partner and incorporates a focus on disease prevention and health promotion.[12] There is growing recognition that successful public health interventions also require community empowerment and participation.[14]

In the U.S., Healthy People 2010 calls for the elimination of socioeconomic disparities in health. However, there has been no coordinated policy focus towards achieving this goal. Other nations including, the U.K., the Netherlands, and Sweden have taken the lead in developing broad based policies aimed at achieving health equity, addressing issues such as housing, nutrition, education, and employment, in addition to access and quality of health services.[15] New tools are emerging that support efforts to improve population health. Health Impact Assessment, analogous to Environmental Impact Assessments, provide a methodology to assess the potential health impacts, positive and negative, of policies and programs.[16] Health equity audits are a process by which partners systematically review inequities in the causes of ill health, and access to services and their outcomes, for a defined population to ensure that actions aimed at promoting equity are incorporated into policy and practice.[17]

Typically, further research is recommended to address a particular study's limitations. Kushel's study is cross-sectional and based on self-report.[2] While the authors found no difference in ambulatory care use in the last year, ambulatory care use was defined as any visit, so we have no information about potential differences in the number or quality of these encounters. The study provides no information on the diagnoses responsible for emergency department visits or hospitalization. Nevertheless, we can accept that housing instability and food insecurity pose significant barriers to care and lead to poor health outcomes. Rather than conducting more studies to further quantify harms, we need to better understand root causes and develop effective interventions that address them.

In 1962, Michael Harrington's[18] *The Other America* focused attention on the plight of America's "invisible poor" and served as a catalyst for action. In 1964, Jack Geiger, treating ill and malnourished children in Mississippi wrote prescriptions for food that were filled by local groceries and paid for out of the community health center's pharmacy budget. This was followed by creation of a cooperative vegetable farm to improve nutrition in the community, an innovative strategy for tackling upstream causes of illness.[7] Decades later, many Americans still have inadequate access to nutritious food and secure housing.

Hurricane Katrina brought images of the harsh reality of those who have not benefited from the nation's prosperity into living rooms across the country, highlighting our failures in addressing poverty and sparking renewed discussion about class and race. The disaster pushed large numbers of people into hunger and homelessness simultaneously, so it was impossible to ignore their plight. However, too many struggle daily to avert disaster and avoid the same fate, outside of the reach of television cameras. We, as doctors, need not limit ourselves to bearing witness to social injustice. This may be an opportune time to "swim upstream" by partnering with our patients, our communities, and our colleagues from other sectors to advocate for interventions and policies that address the social determinants of health, as we continue treating their consequences.—**Arlene S. Bierman, MD, MS[1], and James R. Dunn, PhD[2],** *[1]St. Michael's Hospital, Centre for Research in Inner City Health Toronto, and Faculties of Medicine and Nursing, University of Toronto, Toronto, ON, Canada; [2]St. Michael's Hospital, Centre for Research in Inner City Health Toronto, and Department of Geography, University of Toronto, Toronto, ON, Canada.*

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